

WHAT IS CLAIMED IS:

1. A pavement repair system comprising:
a vehicle;
a hopper disposed on the vehicle;
5 at least one flameless heating element disposed proximate the hopper, the flameless heating element operable to maintain materials in the hopper within a selected temperature range; and
a generator disposed on the vehicle, powered by the
10 vehicle and operable to provide power to the at least one electric heating element during vehicle operation.
2. The pavement repair system of Claim 1 wherein
the at least one flameless heating element further
15 comprises an electric heating element.
3. The pavement repair system of Claim 2 wherein
the flameless heating element further comprises an
electric immersion heater.
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4. The pavement repair system of Claim 1 further
comprising two cylindrical, electric heating elements
disposed within an air jacket proximate the hopper.
- 25 5. The pavement repair system of Claim 4 wherein
the electric heating element further having a combined
capacity of at least seven kilowatts.

6. The pavement repair system of Claim 1 further comprising the at least one flameless heating element operable to maintain hot mix asphalt materials within the hopper with between 250°F and 350°F.

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7. The pavement repair system of Claim 1 further comprising:

a first flameless heating element disposed within an air jacket adjacent to a first side of the hopper;

10 a second heating element disposed within the air jacket adjacent to a second side of the hopper; and

the first flameless heating element and the second flameless heating element operable to maintain materials in the hopper between 275°F and 300°F.

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8. The pavement repair system of Claim 1 further comprising a thermostatic controller associated with the at least one flameless heating element.

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9. The pavement repair system of Claim 1 further comprising the hopper having an air jacket.

10. The pavement repair system of Claim 1 further comprising the at least one flameless heating element operable to be alternately powered by an external power source.

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11. The pavement repair system of Claim 10 wherein the external power source comprises a power cord operable to connect with an electrical power outlet.

10 12. The pavement repair system of Claim 1 wherein the generator comprises a hydraulically driven on-board generator.

13. A hopper assembly for providing hot-mix asphalt
for a pavement repair vehicle comprising:

a hopper body;

at least one flameless heating element disposed
5 adjacent the hopper body operable to heat hot mix asphalt
materials within a selected temperature range;

the at least one flameless heating element operable
to be powered by a pavement repair vehicle on-board
generator; and

10 the at least one flameless heating element operable
to be powered by an external power source.

14. The hopper assembly of Claim 13 further
comprising two cylindrical, electrical heating elements
15 disposed within the air jacket.

15. The hopper assembly of Claim 13 wherein the at
least one flameless heating element comprises at least
one electric immersion heater.

16. The hopper assembly of Claims 13 further comprising the at least one flameless heating element operable to maintain the hot mix materials between 250° F and 350° F.

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17 The hopper assembly of Claims 13 further comprising the at least one flameless heating element operable to maintain the hot mix materials between 275° F and 300° F.

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18. A method for heating a hopper in a pavement repair vehicle comprising:

providing at least one flameless heating element in an air jacket adjacent to the hopper; and

5 providing power to the flameless heating element using an on-board generator operable to heat hot mix asphalt within the hopper to a selected temperature range.

10 19. The method of Claim 18 further comprising providing power to the flameless heating element using a hydraulically driven on-board generator.

15 20. The method of Claim 18 further comprising providing two cylindrical electric heating elements operable to maintain the hot mix asphalt between 275° F and 300° F.